



Department
for Environment
Food & Rural Affairs



Llywodraeth Cymru
Welsh Government

Summary of responses to the consultation on reducing emissions from Medium Combustion Plants and Generators

June 2017



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Executive summary

The government is committed to tackling air pollution and improving air quality. Reducing air pollution is vital for people's health, the economy and the environment. Air quality has improved over recent decades through the regulatory frameworks successive governments have put in place. Investment by industry in cleaner processes and the shift in the UK fuel mix away from coal towards cleaner forms of energy have been key elements in these improvements. However, the government recognises the need to do more to reduce harmful emissions of pollutants more widely. That is why the UK has adopted ambitious, legally-binding targets to reduce significantly emissions of NO_x and four other damaging air pollutants by 2020 and 2030.

Implementing the Medium Combustion Plant Directive (MCPD) will help to reduce air pollution by bringing in emission controls for combustion plants in the 1-50MWth range. The MCPD was supported by the UK as it will deliver a cost-effective improvement in air quality. The Directive requires all plants in scope to be registered or permitted and sets limits on the levels of pollutants that these plants can emit according to their type, size, age, fuel type and annual operating hours. It also requires operators to test emissions from their plants to demonstrate compliance with emission limits. The MCPD must be transposed into UK law by 19 December 2017. The controls will apply to new plants from December 2018. Existing plants must comply with requirements from 2024 or 2029, depending largely on size. Full implementation will be achieved in 2030.

Within Great Britain, there has been rapid growth in the use of low-cost, small scale flexible power generators in the past few years. Whilst there is a legitimate role for some rapidly-responding relatively efficient small-scale generation, there has been a recent growth of (mainly diesel) generators which emit high levels of NO_x relative to other Medium Combustion Plants (MCPs) and are not subject to emission controls. This growth, poses a concern for local air quality as well as for meeting future national emission reduction targets.

In order to take action to address this, last November the government issued, in partnership with the Welsh government, a consultation seeking views on proposals designed to reduce emissions of harmful air pollutants from medium sized combustion plants and generators in England and Wales. These types of plants are a significant source of air pollutants (oxides of nitrogen (NO_x), particulate matter (PM) and sulphur dioxide(SO₂)) which have a serious impact on air quality and also health. The consultation sought views on broad principles for transposition of the MCPD and emissions controls for generators. Associated guidance will be subject to stakeholder consultation by early 2018.

On 23 June 2016, the EU referendum took place and the people of the United Kingdom voted to leave the European Union. Until exit negotiations are concluded, the UK remains a full member of the European Union and all the rights and obligations of EU membership remain in force. During this period the government will continue to negotiate, implement and apply EU legislation. The outcome of these negotiations will determine what arrangements apply in relation to EU legislation in future once the UK has left the EU.

Introduction

The consultation ran between 16 November 2016 and 8 February 2017.

In total 112 responses to the consultation were received:

61 responses through the Citizen Space online portal responding directly to the questions;

51 responses by email or post.

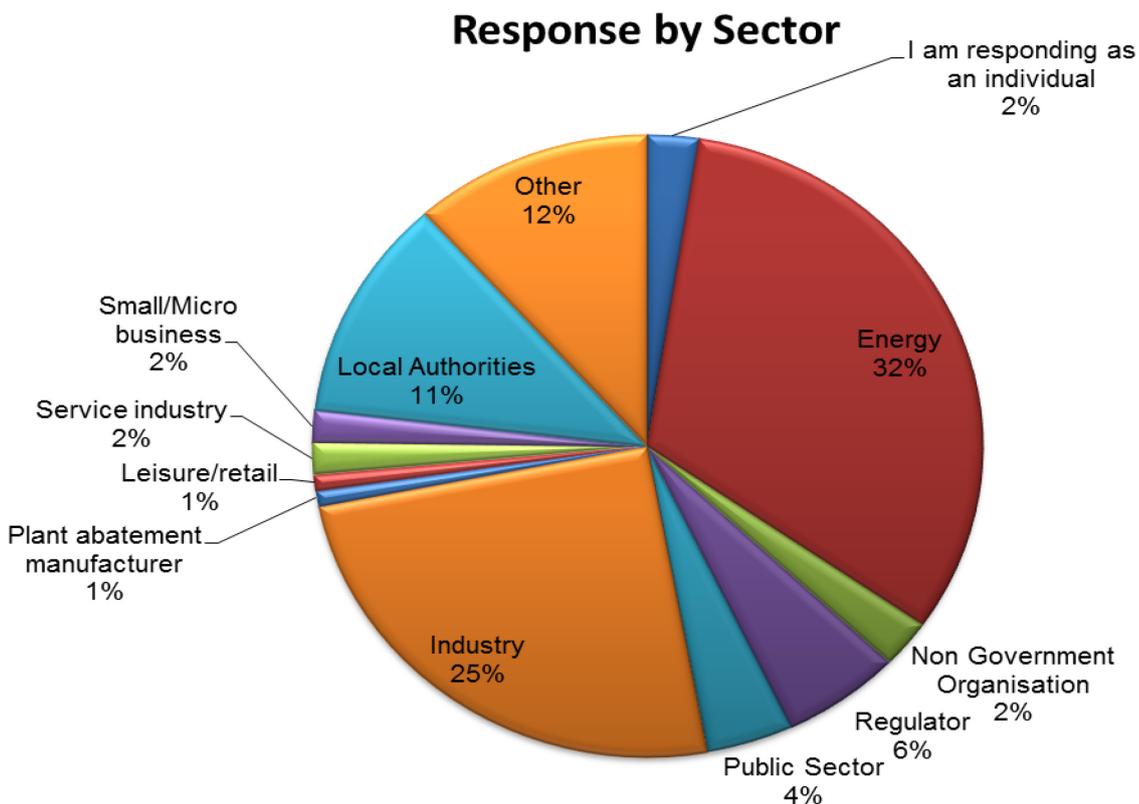
For email or postal responses, where respondents answered the specific consultation questions these have been included in the summaries of each of the questions. Where they provided more general comments, their views have been picked up in the 'any additional comments' section.

This document summarises the consultation responses by questions. A full list of questions can be found at Annex A.

This consultation applied to England and Wales. A separate transposition process is being carried out by Scotland, Northern Ireland and Gibraltar.

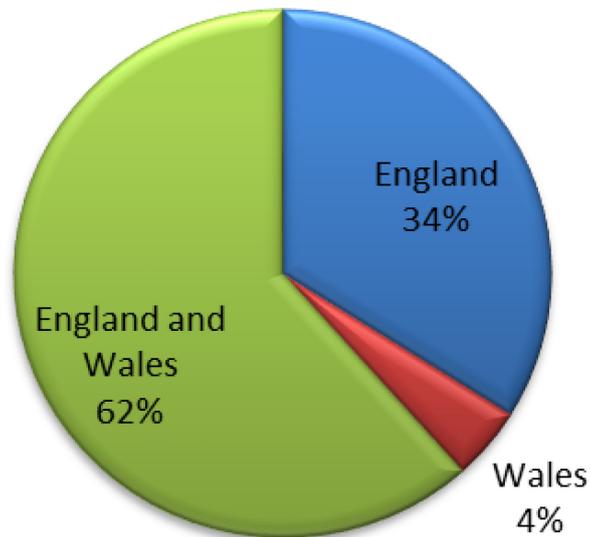
Who responded?

Of the 112 responses received, the largest number of responses were from the Energy sector, followed by Industry, Other, Local Authorities and Regulators.



The majority of responses were in relation to England and Wales, rather than specifically for England *or* Wales

Response in relation to location



The full list of organisations that responded can be found at Annex B.

Please note that the online consultation is not a representative survey and results cannot be statistically generalised to the wider population.

Summary of responses

This section provides a summary of the responses received to each of the questions.

Medium Combustion Plant Directive

Q1 - Do you agree with the general approach to permitting that is proposed?

We proposed that operators will be required to obtain an environmental permit under the Environmental Permitting Regulations in order to operate an MCP. From 20 December 2018 operators of all new plants (plants that are not already in operation as at that date) will need a permit while operators of existing plants (those in operation before 20 December 2018) must obtain a permit by 1 January 2024 if over 5MWth and by 1 January 2029 if between 1 and 5MWth. For MCPs which are part of other permitted facilities, the conditions of the existing permit may need to be amended to apply the requirements of the MCPD.

Of the 93 responses received, 85% supported the proposed permitting approach.

A number of respondents which provided additional comments by email felt that utilising the Environmental Permitting Regulations and modifying existing permits was the most straightforward implementation approach, however nearly all intimated the need for clear and detailed supporting guidance to be issued alongside the Regulations in a timely manner to help add clarity to the regulations, noting that many of the operators captured under the regulations will have no prior experience of applying for and complying with Environmental Permits.

Q2 - Do you agree with the proposed approaches set out in Table 1?

Table 1 from the consultation is set out below for completeness.

Flexibility	Proposed approach and rationale
<p>1) Exemption from MCPD Annex II ELVs for existing plant operating less than 500 hours per year as a 5 year rolling average.</p>	<p>Apply partially – For most plant operating a limited number of hours, compliance with ELVs is not proportionate considering the limited emission reductions achieved and the costs associated with doing so. However, later in this document we are proposing emission controls for generators which will include some MCPs, in order to safeguard air quality.</p>
<p>2) Extension of time exempted in 1) above to 1000h for plant supplying heating in exceptionally cold weather.</p>	<p>Do not apply. No evidence of the need for this exemption has been submitted by industry so far.</p>
<p>3) Extension of time exempted in 1) above to 1000h for plants in islands when the power supply is interrupted.</p>	<p>Apply in full – this is expected to be a very rare event where additional flexibility in the exemption from compliance to ELVs may be needed to allow power supply to be restored.</p>
<p>4) Exemption from Annex II ELVs for new plant operating less than 500 hours per year as a 3 year rolling average.</p>	<p>Apply partially – for most plant operating a limited number of hours, compliance with ELVs is not proportionate considering the limited emission reductions achieved. However, later in this document we are proposing emission controls for generators to safeguard air quality.</p>
<p>5) Less stringent ELVs for some new MCPs until 2025 and delay in application of ELVs to existing MCPs until 2030, if located in Small and Micro Isolated Systems (SIS and MIS).</p>	<p>Apply in full - there are a very small number of such plants in England and Wales and this flexibility enables plants in such difficult locations longer time to achieve compliance.</p>
<p>6) Delay in application of Annex II ELVs for certain existing plant over 5MW supplying heat to public district heating networks. The Directive specifies maximum ELVs that must be applied, however regulators are required to ensure that emission controls applied do</p>	<p>Apply in full – District heating is a sustainable technology supported by government. This flexibility applies for a short period to a low number of older plants where abating emissions to comply with the MCPD will be more complex and enables regulators to set emission controls which safeguard local air quality and are proportionate.</p>

not lead to significant pollution.	
7) Higher dust ELV (for a limited period) for plant firing solid biomass located in zones compliant with air quality limits. The Directive specifies maximum dust ELV that must be applied, however regulators are required to ensure that emission controls applied do not lead to significant pollution.	Apply in full – Biomass is supported by government as a sustainable, low carbon technology. Under the Renewable Heat Incentive, biomass plants are required to comply with dust and NO _x emission limits which safeguard air quality and are proportionate. However, meeting MCPD Annex II ELVs may require different abatement technology, so it is important to retain flexibility for the regulator to set ELVs that do not require additional abatement if air quality is already safeguarded.
8) Delay in application of requirements for certain plant used to drive compressor stations in national gas transmission system	Apply in full – this flexibility is required to allow enough time for upgrading the national gas grid, but impacts a very small number of plants. This exemption was included at UKs request.
9) Increase in NO_x ELV for new engines operating between 500-1500 hours provided they are applying primary abatement measures	Apply partially – we are proposing emission controls for generators to meet EU and international legislative requirements.

Of the 91 responses received, 67% agreed with the proposed approaches. The majority welcomed some flexibility to deal with particular circumstances. However there were concerns from regulators that allowing a range of flexibilities would make enforcement more complex and result in lack of clarity and additional burdens to regulators and operators. There were calls for guidance to clarify the scope of some flexibilities, which will be needed a reasonable time in advance of emission controls to enable operators time to reach compliance.

There were also concerns that some of the flexibilities proposed (such as an exemption from MCPD Annex II Emission Limit Values (ELVs) for plants operating on average up to 500 hours per annum (hpa), or later application of ELVs for biomass and district heating) could pose risks to local air quality which would require scrutiny on a case by case basis. The rationale for allowing higher ELVs for new engines operating between 500-1500 hpa was also strongly questioned, although these plants are covered by the generator controls.

Q3 – What are the practical problems with applying the 3-year and 5-year rolling averages?

We proposed to partially apply the exemptions below and asked what would be the practical problems in doing so.

- ***Exemption from MCPD Annex II ELVs for existing plant operating less than 500 hours per year as a 5 year rolling average.***
- ***Exemption from Annex II ELVs for new plant operating less than 500 hours per year as a 3 year rolling average.***

Verification of operating hours was deemed complex, and may require issuing guidance on admissible evidence and quality of metering systems used to demonstrate compliance.

There was an equal split between responses which considered the rolling averages should be allowed in full to enable maximum flexibility and those who thought 3-5 year rolling averages provided too much flexibility. The latter noted this flexibility could pose problems to local air quality, would be difficult to enforce, and could lead to abuse. Annual reporting of operating hours was proposed as a potential solution, at least for plants which exceed 500 operating hours on any year.

If a maximum limit in annual operating hours is applied, it was suggested this could be restricted to plants which have the potential to impact on local air quality.

Q4 – Do you have any specific examples where applying the extension to exempted hours in exceptionally cold weather is justified?

We had not seen evidence of the need to extend the number of hours combustion plants, used for heat production, can operate without complying with emission limits in the cases of exceptionally cold weather. We therefore proposed not to apply this extension in England and Wales, unless compelling evidence for its need was submitted.

The majority of responses to the consultation agreed with the proposal not to apply this flexibility, and did not provide any examples of where it might be needed.

Some responses noted that allowing this additional flexibility would increase air pollution, which could become significant during cold weather with low wind conditions. It would also make the 500hpa rolling average harder to enforce.

Some responses supported application of the flexibility on the basis that it is prudent to have a contingency for exceptional circumstances, where required for protecting critical infrastructure, human health, etc. This would be consistent with flexibility allowed for large

combustion plants in case of emergencies on the national grid. The only examples where the flexibility may be needed to allow additional heat in exceptionally cold weather were in the food industry, and in livestock farms (where it may pose a welfare issue). There were also calls for flexibility in operation of water pumps during flooding events and generators to maintain continuity of power and water supply, and sewage treatment, but these were beyond the scope of the exemption allowed in the Directive.

Q5 - For biomass and district heating plants which qualify for later application of Annex II emissions limits, do you have views on how emission limits should be set which ensure that no significant pollution is caused and that high level of protection of the environment as a whole is achieved?

The Directive requires the regulator to ensure that no significant pollution is caused and that a high level of protection of the environment as a whole is achieved, when these flexibilities are applied. The government sought views on how emission limits which do not allow significant pollution should be set and what these limits should be.

There were widespread concerns that allowing these flexibilities could lead to an increase in air pollution in urban areas, considering both biomass and district heating are incentivised by government for reducing greenhouse gas emissions.

It was suggested that these flexibilities should only be applied if they set emission controls which safeguard local air quality and take into account the cumulative impact of greater uptake of biomass. Furthermore, it was proposed that the flexibilities should be allowed only for plants which demonstrate greenhouse gas emission savings.

Some respondents proposed that air quality modelling should be carried out to determine appropriate emission controls on a case by case basis, while others preferred a screening methodology to avoid modelling and provide greater clarity to plant operators.

Q6 –What are the practical difficulties with applying the MCPD to compression ignition engines within the MCPD size range which are not used in the propulsion of a vehicle, ship or aircraft and are not subject to ‘placing on the market’ emission standards under the Non-Road Mobile Machinery Directive (NRRMD)?

The NRRMD is being replaced with a new Regulation which will apply from January 2019 and will require all compression ignition engines installed in non-road mobile machinery within the MCP range to comply with ‘placing on the market’ emission standards. The government considered that engines above 1MWth installed on NRMM and not subject to placing on the market emission standards will be in scope of the MCPD, except where otherwise exempted by the MCPD.

There was strong support for the approach proposed to provide a level playing field and avoid leaving plants unregulated. However there were concerns that some plants installed on NRMM may not be able to comply with the MCPD requirements and have to be retired early.

Respondents asked for clarity on which plants would be in scope and who is responsible for compliance with the MCPD. Enforcement will face challenges considering plants may be moved frequently, however it was noted that regulators already enforce environmental permitting for other types of mobile plants and so have experience and approaches which can be adopted for MCPs.

Q7 - What approach for compliance checks do you support?

Scheduled checks i.e. data relating to each plant is checked every 3 years. These checks would be supported by mandatory reporting for operators in order to demonstrate compliance.

Random checks, where data relating to a percentage of plant are selected for randomised spot checks. No mandatory data reporting, instead regulators would request data.

Other, please specify

Of the 88 responses received, 34% chose random, 28% chose scheduled and 38% chose other. There was strong support for developing approaches which enable a reduction in frequency. However there were concerns about the practicality of random checks.

Regulators were concerned that if operators did not know when the checks would take place the operators may not have staff available on site and the paper evidence ready. They felt that this could impact the efficiency of the regulatory role as follow ups would

need to be set up and this would not be covered by the fees paid by the operator. Operators also raised concerns that they do not always have manned sites so requested they receive notice of visits so they could facilitate the inspection visits.

A suggested way forward was a combination of electronic reporting to demonstrate compliance, complemented by random visits where required.

Q8 - Do you agree with the proposed approach for monitoring of plants?

Operators are required to monitor pollutant emissions periodically. Where secondary abatement equipment is fitted, the operator is also required to keep records to prove continuous operation of the equipment. Plants which are exempt from MCPD Annex II ELVs because they operate up to 500 hours per annum as a rolling average are required to monitor emissions less frequently as set out in part 1 of Annex III of the MCPD.

Of the 86 responses received, 71% agreed with the approach. It was widely agreed that continuous monitoring would be excessively costly and disproportionate. There were some concerns that the monitoring frequency proposed was too low and would allow for plant operators to maximise plant efficiency at the expense of pollutant emissions when the plant is not being monitored. There was a call for retaining more frequent monitoring where already required under the environmental permitting regulations.

Many considered that the requirement for carbon monoxide (CO) monitoring for back-up diesel generators is unnecessary as these engines would produce minimal amounts of CO during their lifetime. Others suggested PM, NO_x, SO₂ and CO should all be monitored for all plant. A number of responses called for the estimation of SO₂ emissions based on fuel sulphur content to be allowed as an alternative to SO₂ monitoring.

Q9- Do you have any suggestions for monitoring methods which could be applied to MCPs as an alternative to MCERTs?

In the UK, plants over 50MWth are required to meet MCERTs (UK Monitoring Certification Scheme) monitoring standards; for 20-50MWth plant, operators must use monitoring methods approved by the regulator, such as MCERTs methods. However, under the MCPD the majority of MCPs (those using natural gas and gas oil) are required to monitor only NO_x and CO emissions and we suggested MCERTS was likely to be disproportionate and other standards could be adopted.

The majority of the respondents agreed that MCERTs standards were disproportionate for MCPs especially the smaller plant but some felt that currently there is not a way of monitoring that matches the standard of MCERTs.

Many respondents suggested alternatives that could be developed to replace MCERTs while others suggested that a development of MCERTs to include standards proportionate to the risk posed by smaller plants could be an option.

Other issues raised included the need for guidance on monitoring, e.g. when more than one type of plant, or some not in scope of MCPD discharge through a common stack. It was also highlighted that stacks may have access restrictions for health and safety reasons so may be difficult to gain access for emissions monitoring.

A number of respondents highlighted that Defra had already established a monitoring sub group to discuss alternative monitoring standards in collaboration with industry experts and asked to participate. It was also suggested that Defra collaborate with EU partners when developing these approaches to ensure they are recognised as compliant with the requirements of MCPD Annex III point 7.

Emission controls for generators

Q10 - Do you agree with the proposed definition of “generators”?

“Generator” means:

- **any single stationary electricity generating combustion plant; or**
- **any group of stationary electricity generating combustion plant located at the same site and providing electricity for the same purpose,**

with a rated thermal input of between 1MWth and 50MWth, including any MCP, but excluding any plant subject to the provisions of Chapter II or Chapter III of Directive 2010/75/EU (the Industrial Emissions Directive).

Of the 87 responses received, 53% agreed with the proposals. The majority of respondents felt that mobile generators should be included in the definition of generators, as they also have the potential to cause exceedances of the hourly NO₂ concentrations limits set in the Ambient Air Quality Regulations 2010 and should be subject to the same controls. Those responding felt that if mobile generators are exempt, this could result in any future generators being designed to be technically mobile, to avoid generator controls.

The majority of respondents asked that some of the terms be defined further. This included ‘Stationary’, ‘purpose’, ‘mobile’ and ‘same site’. Most felt that this should be addressed in regulator guidance rather than set out in the legislation.

Industry called for greater clarity on whether the proposed controls applied only for generators exporting to the grid or for all generators providing electricity.

Responses also highlighted that, under the proposed definition, virtual aggregation (where an aggregator provides a service to the grid by drawing on generators across several sites) would escape regulation. The energy and industry sector felt there should be some

more clarity around aggregation and how it would apply for a site with different types of contracts and plants with different emission levels.

Q11 - Do you agree with the emissions limits proposed and that where secondary abatement is applied it must abate emissions to the required Emission Limit Value within five minutes?

We proposed a NO_x emissions limit of 190mg/Nm³ to all new generators (except back-up generators used in emergencies and those on nuclear sites) and generators relying on secondary abatement to achieve emission limits and thresholds within five minutes of operation.

Of the 91 responses received, 46% agreed with the proposals. The majority agreed that the 190mg/Nm³ limit was appropriate but the majority disagreed with the proposed five minute limit. Many wanted clarification as to at which point the five minutes of operation would start. It was also suggested that five minutes would be difficult to enforce and so it would be better to have a defined start-up and shut down period exclusion. Some felt that a rapid NO_x abatement system during start up could be an unjustified cost compared to the environmental benefits achieved over a full operating cycle.

Some felt that the emission limit proposed was too generous considering there are alternative non combustion technologies available to provide the same services.

Q12 - Do you agree with the proposed timescales for implementation, which reflect those specified in the Medium Combustion Plant Directive?

01/01/2019	Tranche B generators must be permitted and comply with standard permit conditions; Tranche A 5-50MW generators with emissions above 500mg/m ³ which operate for more than 50 hours per annum must be permitted.
01/01/2025	Remaining Tranche A 5-50MW generators must be permitted.
01/01/2030	Tranche A 1-5MW generators must be permitted.

Of the 85 responses to this question, 52% supported the proposed timescales. Some sectors considered the timescale too tight and that it will not allow industry and regulatory bodies sufficient time to prepare for the changes in regulation. Others suggested that the timescale should be more stringent than currently proposed, in part given the immediate threat posed by poor air quality.

There was a range of views provided relating to plants with pre-existing contracts. Some respondents stated that this should in no way exempt companies from complying with the environmental regulations at the same time as everyone else, while others stated the

transitional arrangements should be extended to take into account companies' current project plans.

Q13- Do you agree that all generators with Capacity Market Agreements for new capacity from 2014/ 2015 auctions should be regulated in the same way as generators that are already operating?

We proposed a longer implementation period for generators which were already in operation at the time of publication of the consultation, and also those which were not yet in operation but had entered power supply agreements under the 2014 and 2015 Capacity Market Auctions, since they were bound to provide power for an agreed price.

Of the 76 responses received, 75% agreed. There was a strong concern that many diesel generators cannot meet the ELVs without fitting secondary abatement. It was stated that such a significant change in the project economics could prevent delivery of these projects.

It was also strongly felt that for contracts awarded before the consultation conclusion investors will face a very significant financial risks and uncertainty, and may pull out, which could jeopardise the UK capacity market. It was suggested a cut-off date for plants benefiting from transitional arrangements (Tranche A) should not predate publication of the regulation.

There were also concerns that the UK government needs to be mindful of the potential to lock in high emissions generators for ten to fifteen years and set a precedent where long term contractual agreements prevent the UK from making progress in addressing air pollution and climate change.

Q14 - Do you believe that generators with an aggregated thermal input <1MW (at a single site) should be required to comply with low emission limits?

Of 84 responses received, 46% agreed that they should be required to comply with low emissions limits. However doubts were raised across all sectors as to whether including generators / plants with an aggregated thermal input <1MW was proportionate to the risk. Some noted that no evidence was presented in the Impact Assessment which would suggest that emissions from these types of sites would have a significant impact on air quality.

Four responses said that aggregated sites <1MWth should not be regulated the same as sites >1MWth under the MCPD and Generator regulations. They suggested that should these sites become a problem in the future then it could be addressed through the regulation of third party aggregator activities.

Q15 - Is there a case for allowing back-up generators to be tested at peak times of demand?

We asked if testing between 4-7pm on winter weekday evenings (expected peak times of electricity demand) should be restricted (notwithstanding the fact that Ofgem is currently undertaking a review of embedded benefits so this incentive may reduce in future).

79% of 68 responses agreed there was a case for allowing back-up generators to run at peak times. It was noted that not all generators would need to be tested for 50 hours each year but there was some concern that preventing testing at peak times would result in loss of capacity which would have to be made up from other sources leading to an overall increase in emissions. Some considered that any additional emissions from extending testing hours during operation at peak time were unlikely to be significant. It was suggested that, provided that these generators do not exceed the run hour limits, it should be irrelevant when generators are tested. It was also suggested that the overall cost to society may be lowered by allowing testing to include provision of balancing services, subject to the 50 hour limit.

Some suggested that testing hours should not be restricted where generators supply hospitals or other life dependant activities as these would only be used exceptionally.

Q16 - Do you agree with the proposed approach to controlling particulate emissions from generators?

Emission limit values for particulate emissions were not proposed. However background PM levels will be taken into account by regulators when determining whether the operator is required to demonstrate compliance with Ambient Air Quality Limits. In addition, in order to protect the environment from high levels of particulate emissions from poorly functioning generators, a standard requirement to be set out in permits will require operators of generators with a persistent visible emission to carry out maintenance to ensure the problem does not persist.

Of the 75 responses received to this question, 61% agreed. It was recommended that “persistent visible emission” is carefully defined and an explanation should be provided of how Defra will measure whether the problem persists or not. A concern was also raised that plant should not be subject to enforcement action regarding visible emissions without recourse to a certified measurement against a published limit and that guidance should be issued on this.

There was a strong view that PM levels should be part of the required emission monitoring and reporting requirements to ensure confidence in the regime and establish robust data on particulate emissions – considering generators, particularly if poorly maintained, have the potential for significant PM emissions.

It was suggested an air quality assessment should be made mandatory at the planning stage rather than relying on regulators to determine the need for such an assessment.

Also, the level of PM emissions that are "likely to cause significant issue at local/national scale" should be specified so that comparisons of generator equipment can be made.

Q17 - Do you agree with the proposed exemptions from emission controls?

We proposed that back-up generators that operate to provide power in emergency situations should not be required to meet ELVs or to hold a permit unless their testing regime exceeds 50 hours per year. We are also proposed that generators providing power at nuclear sites should be exempt on the basis that these sites are licenced under a separate regulatory regime which ensures that back-up generators are only used for supplying power to the site and cannot be used to generate power for export off-site.

Of 76 responses received to this question, 75% agreed with the proposed exemptions. It was agreed that generators providing power at nuclear sites should be exempt as they are already licensed under a separate nuclear site licence regulatory regime which prevents them from participating in the energy market. There were calls for the exemption for back-up generators to be clearly defined to ensure that it is limited to generators solely operating for the purposes of supplying power during an on-site emergency.

Others suggested exempting power supply in islands, or plant using low carbon fuels such as used cooking oil, biodiesel or hydro treated vegetable oil.

There were calls for all exempt generators to be registered with the regulator and for a decision tree to be provided for regulators and operators to assist in identifying exempted plants.

There were calls for "emergency" to be clearly defined, to prevent any potential loopholes which would allow the use of plants benefitting from this exemption for commercial benefit.

Q18 - Do you agree that permitted generators should be required to monitor their emissions every three years only if they have adopted abatement?

We proposed that permitted generators that rely on secondary abatement to achieve emissions limits will require emissions monitoring at least once every three years. In addition, all plant 1-<50MWth will be subject to the MCPD monitoring requirements.

Of the 74 responses received, 59% agreed. The majority of those that disagreed considered monitoring every three years not to be stringent enough, arguing that significant damage could have been caused in that time. It was suggested the regulator should have the power to require additional monitoring in the event of complaints or reasonable suspicion that emission limits are being exceeded, such as abatement plant not working or being bypassed.

A number asked that the monitoring requirements should be applied to all generators subject to emission limits, since relying on emissions data supplied with a permit application only does not provide assurance the plant will continue to comply with the emission limit over time.

However, a few noted that due to the inherent difficulties experienced in monitoring systems which may only be available for testing for very short periods, this three year approach would appear suitable. In some cases, where there is a maintenance plan for the secondary abatement this could also be considered as an alternative approach for demonstrating compliance with the limits.

Some considered it would be more appropriate for monitoring to be done at least once a year for all generators since it would improve compliance with air pollution controls, although it would increase costs to operators.

Proposed legislative approach

Q19 - Do you foresee any challenges to using the Environmental Permitting Regulations (EPR) for implementing the MCPD and controls on generators?

There were 70 responses to this question, 63% did not foresee any challenges. The majority felt that the Environmental Permitting Regulations are the right 'vehicle' for these proposals.

Some raised concerns that the EPR could become overly complicated thus leading to increased regulatory uncertainty. One organisation suggested that the MCPD requirements and the controls of generators proposals should be included in separate schedules in the interest of clarity. It was also suggested that clear and detailed guidance needs to be produced alongside the regulation.

Some felt that permitting was a disproportionate approach and that registration would be more appropriate. However others felt that if a registration approach is adopted there are few enforcement tools within the regulations to deal with non-compliance.

Local Authorities raised concerns that fees and charges under EPR may be insufficient to enable cost recovery and would need to be amended if Local Authorities are the regulators. In particular, there were concerns that the fees for small plant covered by standard rules would not cover the costs of permitting. This is likely to mean that the required level of resource will not be allocated by regulators leading to delays with permitting and insufficient enforcement.

A number of respondents stressed the need to ensure that the competent authority have sufficient resources and staff with the relevant expertise. Whichever regulator is used, adequate training must be provided.

Q20 - Do you agree with this approach?

We proposed removing duplicating and conflicting controls between the MCPD, the Clean Air Act (CAA), Sulphur Content of Liquid Fuel Regulations and Environmental Protection Act 1990 legislation while maintaining the current level of environmental protection.

Most agreed that overlaps between legislation should be removed as long as:

- It reduces the burden on industry
- It is clear what is replacing the provisions which have been removed and why
- It is clear who is the regulator of the replacement provision
- Unintended consequences are thought through

The general feeling was that any replacement provision could provide an opportunity to go further than 'maintaining existing environmental standards'.

The majority of respondents agreed the Clean Air Act provisions limiting dark smoke and setting heights of chimneys should be retained. However, there was a call for a review of the CAA Chimney Height Rules.

The regulator

Q21 - Which of the approaches do you consider to be the best option for the choice of regulator?

- A) Environment Agency (EA) in England and Natural Resources Wales (NRW) in Wales regulate plants in Part A1 installations and those where the regulator must determine the permit conditions to safeguard local air quality; Local Authorities (LAs) regulate all other plants.***
- B) EA regulates all plants in England and NRW regulates all plants in Wales***
- C) LAs regulate all plants***

There were 81 responses to this question. The split between options comprised of 49% for Option A, 46% for Option B and 5% for Option C. There was a clear call for a solution which would provide consistency in implementation and a clear regulator which is adequately resourced to carry out its functions. As a result, there was strong support for option B (EA in England and NRW in Wales) which was preferred by businesses with multiple sites, and option A where Local Authorities would regulate the majority of lower risk sites and EA/NRW would regulate higher risk sites where permit conditions need to be determined to safeguard local air quality. Option A would allow Local Authorities to explore synergies with their other roles (planning, charging business rates) and give them a better understanding of local emission sources, although in option B EA/NRW could share data with Local Authorities and consult them on permit conditions.

Q22 - Are there any situations where you consider the identity of the regulator needs to be further clarified?

Of the 58 responses received, 55% did not consider further clarity was needed. Consistent application of the Regulations across the UK was considered essential.

Concern was raised about the potential for a facility to be regulated and visited by more than one regulator such as plants at a site where some are covered by a waste permit.

An alternative approach was requested for mobile plant, which will often be transferred between sites by either owner, operators or hired out to different operators by hire companies.

Impact of the proposals

Q23- Do you agree with the assumptions made/ evidence provided in the policy analysis and associated impact assessment e.g. number of plants, operating hours, emissions?

There were 46 responses to this question, 63% agreed, they felt the correct assumptions were made and a precautionary approach was taken.

Some noted that mobile plants are not included in the impact assessment. It was commented that the overall number of plants to be registered seemed low and the justification for that number reducing over time may not be correct. The number of back up only generators was also felt to be underrepresented.

Others thought the Impact Assessment was overly conclusive in places. Examples given were, similar sized gas engines have much lower output than similarly sized diesels, as gas and diesel emissions can vary dramatically from engine to engine dependant on age, tuning and maintenance. Some points needed further clarification such as the choice of the regulator, scope (aggregation queries) and therefore some respondents felt it was difficult to comment on and support the assumptions at this time.

Additional comments

Q24 - Do you have any additional comments relating to either proposal?

Additional comments which were provided included;

- If both Local Authorities and Environment Agency have a regulatory role, fees and charges for Local Authorities should be on the same level and should be discussed further through consultation.

- Clarification is needed on how the proposals would work for fleets that are for hire and who would be responsible for permitting them.
- There were calls for incentivising industry and manufacturers to use the cleanest technology available.
- There were concerns that the planning process is not sufficiently stringent to avoid impacts on air quality from combustion plants.
- Concerns were raised over whether 'existing' plant would become 'new' plant when registered to a new site.
- The analysis did not assess the potential of alternative fuels for reducing emissions, e.g. paraffinic fuels.
- The Impact Assessment should assume all generators would be replaced within a ten to fifteen year timeframe.
- There were concerns about security issues around publication of where generators are located.

Government response

The following paragraphs outline our initial response to the consultation. We are developing the detailed implementation approach and therefore some decisions will be made in the coming months, working closely with stakeholders.

The following cross cutting issues were raised:

- There were calls for reviewing the Clean Air Act (1993), which helps to control emissions of pollutants including particulate matter (PM) and sulphur dioxide (SO₂). The Act gives Local Authorities powers to control emissions of dark smoke, grit, dust and fumes from industrial premises and furnaces and to declare "smoke control areas" in which it is an offence to emit smoke from the chimney of any building (e.g. domestic, commercial and industrial). We are currently looking at what other measures are needed to curb emissions as part of our work on implementing the UK's emission reduction goals, including the types of emissions covered by the Clean Air Act.
- There were also calls for Local Authority Fees and Charges to be reviewed, to ensure full cost recovery. Defra held a consultation on a proposed increase to the LA environmental permitting fees and charges between 15 March 2017 and 13 April 2017, to enable cost-recovery. Defra has been reviewing the consultation responses and will respond in due course.

Decisions following consultation

Following the responses of this consultation, further analysis and a stakeholder workshop on 4 April 2017, we have made the following decisions;

1. We have decided to appoint the Environment Agency as the regulator in England. There was a similarly strong level of support between options A where the regulator role was split between the EA, NRW and Local Authorities, and option B, where the EA and NRW would be the regulators. However, the government considered that option B provides greater clarity on roles, consistency in implementation and regulator fees, and greater flexibility for regulating mobile plants and multiple sites with a single operator. For the higher risk plants, where the impact on local air quality must be assessed to determine permit conditions, Local Authorities will be consulted. EA will consult on fees and charges as part of the Environment Agency strategic review of charges. The Welsh government is further considering the matter of regulatory responsibility in relation to plant in Wales.
2. We considered there is no need to amend the Sulphur Content of Liquid Fuels Regulations, or the Environmental Protection Act 1990, because there is no risk of duplicatory requirements. Under the Clean Air Act, stack height will continue to be enforced by Local Authorities when considering planning applications. Permits for MCPs and generators will include a requirement to ensure no persistent dark smoke

emissions, which will enable regulators to direct the operator of a plant to rectify a problem resulting in high particulate emissions.

3. For the implementation of the Medium Combustion Plant Directive:

- The exemption from Annex II ELVs for existing plants which do not operate more than 500hours per year as a rolling average over 5 years, and for new plants which do not operate more than 500hours per year as a rolling average over 3 years will be applied, subject to the restrictions to be imposed in relation to generators. We will also apply the extension to 1000h exempted hours for plants in connected islands where there is an interruption of the power supply, and will retain the ability to allow an extension of exempted hours in exceptionally cold weather. However, to enable effective enforcement, plants which exceed 500 hours of operation in any given year will be required to notify the regulator. In addition, a dust ELV will still apply if plants are firing solid fuels, are required by the Directive.
- In the consultation, we proposed transposing the delay in application of Annex II ELVs for existing plant supplying heat to public district heating networks and for plant firing solid biomass located in zones compliant with air quality limits. However, the vast majority of responses in the consultation objected to this approach, pointing out that the saving to operators was much smaller than the damage caused by the additional emissions. We have reviewed the analysis and decided not to allow the delay, considering that operators benefitting from longer deadlines for compliance with Annex II ELVs would require more expensive permits and eventually have to incur similar investment costs.

4. For controls on generators:

- As requested by stakeholders, and to improve alignment with the MCPD, for generators which must be permitted between 20/12/2018 and 1/01/2019 due to the MCPD, the permit will be issued to meet the MCPD timescale and include MCPD requirements and generator control requirements, the latter applicable from the date required by the generator controls. This will provide greater clarity to operators and simplify the permits.
- We considered the concerns about leaving generators at sites under 1MW unregulated and how reforms to the energy market will encourage them to provide balancing services. We will therefore extend the generator controls to generators with a rated thermal input <1MW, but only if they provide balancing services to the grid. We do not intend to subject all plant under 1MW to permitting.
- The five minute deadline for compliance with the NO_x ELV of 190mg/Nm³ was proposed because it would ensure that generators achieve a significant reduction in emissions regardless of their working pattern and we had evidence it is achievable for at least some generators. However, we received widespread

concerns that for many generators there are no technical solutions for achieving this target. After reviewing the impact of extending the deadline for compliance with the NO_x ELV, we decided to increase the time limit to 20 minutes for Tranche A generators and 10 minutes for Tranche B generators.

- Generators with Capacity Agreements from the 2014 and 2015 Capacity Market auctions will be included in Tranche A as proposed in the consultation; generators under 1MW with Capacity Agreements from the 2016 Capacity Market auction will also be included in Tranche A. However Tranche A generators will only be required to comply with standard permit conditions when their agreement comes to an end.
- We proposed transitional arrangements for Tranche A generators, where 5-50MW generators with NO_x emissions over 500mg/Nm³ which operate for more than 50 hour a year (those which are more likely to pose a concern for local air quality) would be subject to permit conditions that are determined by an air quality assessment from 1 January 2019. However, we recognise that between publication of regulator guidance and 1/01/2019, operators will have limited time to carry out the air quality assessment and any required investment to comply with permit conditions. We will therefore apply emission controls for these generators only from 01/10/2019.
- We do not intend to introduce additional PM emission controls for generators as the overall emission reductions achieved would be modest and, in the majority of cases, not cost-effective. We will include a requirement to ensure no persistent dark smoke is emitted in the regulations, as it will enable regulators to direct the operator of a plant to rectify a problem resulting in high particulate emissions.

Annex A – Full list of questions

- Q1. Do you agree with the general approach to permitting that is proposed?**
- Q2. Do you agree with the proposed approaches set out in Table 1? If not, why not?**
- Q3. What are the practical problems with applying the 3-year and 5-year rolling averages? Should a yearly maximum be applied?**
- Q4. Do you have specific examples where applying the extension to exempted hours in exceptionally cold weather is justified?**
- Q5. For biomass and district heating plants which qualify for later application of Annex II emission limits, do you have views on how emission limits should be set which ensure that no significant pollution is caused and that a high level of protection of the environment as a whole is achieved?**
- Q6. What are the practical difficulties with applying the MCPD to compression ignition engines within the MCPD size range which are not used in the propulsion of a vehicle, ship or aircraft and are not subject to ‘placing on the market’ emission standards under the Non-Road Mobile Machinery Directive?**
- Q7. What approach for compliance checks do you prefer:**
- a) Random compliance checks as described above**
 - b) Scheduled compliance checks as described above**
 - c) Other – please describe**
- Q8. Do you agree with the proposed approach for monitoring plants? If not, what are your concerns?**
- Q9. Do you have any suggestions for monitoring methods which could be applied to MCPs as an alternative to MCERTs?**
- Q10. Do you agree with the proposed definition of “generators”? If not please explain your reasons and propose an alternative definition.**
- Q11. Do you agree with the emissions limits proposed and that where secondary abatement is applied it must abate emissions to the required Emission Limit Value within five minutes?**
- Q12. Do you agree with the proposed timescales for implementation, which reflect those specified in the Medium Combustion Plant Directive?**
- Q13. Do you agree that generators with Capacity Market Agreements from 2014/2015 auctions that are not already operating should be regulated in the same way as generators that are already operating?**
- Q14. Do you believe that generators with an aggregated rated thermal input <1MW (at a single site) should be required to comply with low emission limits?**
- Q15. Is there a case for allowing back-up generators to be tested at peak times of demand?**

Q16. Do you agree with the proposed approach to controlling particulate emissions from generators?

Q17. Do you agree with the proposed exemptions from emission controls?

Q18. Do you agree that permitted generators should be required to monitor their emissions every three years only if they have adopted abatement?

Q19. Do you foresee any challenges to using the Environmental Permitting Regulations for implementing the MCPD and controls on generators?

Q20. Do you agree with this approach? If not, please explain

Q21. Which of the following approaches do you consider to be the best option for choice of the regulator:

a) Plants where regulator must determine the permit conditions to safeguard local air quality and those in Part A1 installations are regulated by EA in England and NRW in Wales, and other plants are regulated by LAs

b) EA regulates all plants in England and NRW regulates all plants in Wales

c) LAs regulate all plants

Q22. Are there any situations where you consider the identity of regulator needs to be further clarified?

Q23. Do you agree with the assumptions made/ evidence provided in the policy analysis and associated impact assessment e.g. number of plants, operating hours, emissions? If not, please provide details.

Q24. Do you have any additional comments relating to either proposal?

Annex B - Organisations that responded

- Accessa
- ADE
- Advica Holdings Limited
- Aggreko
- Agricultural Industries Confederation
- Air Quality Consultants Ltd
- Airport Operators Association
- Alkane Energy
- Allen Diesels
- All-Wales EPR Group
- AMPS
- Anglian Water
- Basildon & Thurrock university hospital NHS Foundation trust
- Bluestone National Park Resort
- British Glass
- Byworth Boilers Limited
- Calor
- Centrica
- Certas Energy UK Ltd
- Chemical Industries Association
- City of London Corporation
- City of York Council
- Combustion Engineering Association
- Cornwall Council
- CPI
- D & D Holmes
- Dartford Borough Council
- Daventry District Council
- Dearman Engine Company Ltd
- Doosan Babcock
- Dudley MBC
- E.ON UK
- East Sussex County Council
- Economics Policy and Research Group, St Andrews
- Ecotricity
- EDF Energy
- Energy Power Resources Ltd
- Energy UK
- Eneus Energy
- ENGINE
- Engineering Equipment Distributor
- Envirocare Technical Consultancy Ltd
- Environment Agency
- Environmental Protection UK

- Environmental Services Association
- FABRA UK
- Fichtner Consulting Engineers Ltd
- First Renewable Power
- Food and Drink Federation
- ForFarmers UK
- Golder Associates (UK) Ltd
- Halter Management Ltd
- Horizon Nuclear Power
- Institute of Air Quality Management
- LB Newham
- LB Planning
- Maltsters Association of Great Britain
- Manchester Airports Group
- Mineral Products Association
- National Farmers Union
- Natural Resources Wales
- Neste (Suisse) S.A.
- Norfolk Environmental Protection Group (Composed of 7 Norfolk Local Authorities)
- Nuclear Industry Association
- Oil Recycling Association
- Plutus PowerGen PLC
- Public Health Wales
- REA
- REG Power Management
- Reliance Energy Limited
- RODEng
- Royal borough of Greenwich
- Salford City Council
- Scottish Power
- Sellafield Limited
- Sembcorp Utilities (UK) Limited
- Shell U.K Oil Products Limited
- Siemens
- Slough Borough Council
- Smartestenergy
- SSE
- Staffordshire Air Quality Forum
- Stagenenergy
- Stoke-on-Trent City Council
- Tarmac
- Tata Steel
- Tech UK
- Thames Water Utilities
- The Society of Motor Manufacturers and Traders
- UK Power Reserve
- UKLPG

- UNIPER
- United Utilities
- Veolia
- Viridor
- Wakefield Council
- Water & Waste Water
- Water UK
- Waterswye
- Wessex Water
- Worcestershire Regulatory Services
- Ynni Glan
- Yorkshire Water